

SOV/124-58-8-9298 D

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 8, p 133 (USSR)

AUTHOR: Levitin, B.S.

TITLE: The Laws Governing the Weight of Dismountable Steel Highway Bridges (Zakonomernosti vesa razbornykh stal'nykh avtodorozhnykh mostov)

ABSTRACT: Bibliographic entry on the author's dissertation for the degree of Candidate of Technical Sciences, presented to the Mosk. inzh.-stroit. in-t (Moscow Structural Engineering Institute), Moscow, 1958

ASSOCIATION: Mosk. inzh.-stroit. in-t (Moscow Structural Engineering Institute), Moscow

Card 1/1

USSR/Medicine - Tuberculosis, Therapy Aug 48
Medicine - Tuberculosis, Prevention

"Work of a Tuberculosis Station in a Village,"
Prof F. I. Levitin, 2½ pp

"Med Sestra" No 8

Describes various duties of village tuberculosis stations. Staff consists of a therapist (in charge), a pediatricist and two nurses, one of whom attends to the welfare of tubercular patients. Station is an independent unit, but is usually accommodated in same building as medical post. Stresses importance of prophylactic work.

16/49T86

LEVITIN F.I.

BYNIS, V.L., otvetstvennyy redaktor; LEVITIN, F.I., redaktor; NEKLIN, S.Ye., redaktor.

[Transactions [of the All-Union Congress of Physicians Specializing in Tuberculosis], September 21-25, 1948] Trudy, 21-25/IX 1948. Otvetstvennyi redaktor V.L.Binis. Redaktory: F.I.Levitin i S.Ye.Neklin. Moskva, Medgiz, 1950. 397 p. (MLBA 7:11)

1. Vsesoyuznyy s"yезд vrachey-ftiziatrov. 5th, Moscow, 1948. (Tuberculosis--Congresses)

LEVITIN P. I.

Ocherednye zadachi v bor'be s tuberkulezom. /Outstanding problems
in tuberculosis control/ Sovet. med. No. 6 June 51 p. 27-9.

1. Professor. 2. Moscow.
GLML Vol. 20, No. 10 Oct 1951

LEVIN, F. E.

In articles. Spravochnik referativnaya literatura [Encyclopedia: reference literature] 194.
2-a. Moskva, Nedra, 1984. 376 p.

SO: Monthly List of Russian Acquisitions. Vol 7, No 4, July 1984.

LEVITIN, F I, ed.

Tuberkulez (Tuberculosis) spravochnoye rukovodstvo dlya
vrachey, pod.red. F. I. Levitina, S. V. Kassino i A. Ye.
Rabukhin, Izd. 2 perer. I dop. Moskva, Masgiz, 1952
375 p. illus., diagrs.

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LEVITIN, F. I.; G. V. MASINO, and RADUTSKIN, A. Ye.

"Tuberculosis; A Reference Guide for Physicians", Tuberkulez, spravocnoye rukovodstvo dlya vrachei, second edition, Medgiz, 1952, pp 1-4, 370-376

Trans

M-102, 1 Jan 55

LEVITIN, F. I (Prof.)

Pneumoperitoneum, Artificial

Pneumoperitoneum in clinical pulmonary tuberculosis. Probl. tub. no. 2, 1952.

9. Monthly List of Russian Accessions, Library of Congress, August ¹⁹⁵²~~1953~~, Unclassified.

MASTEN, F. I., + GOROD, G. V. AND GORODIN, A. Ye.

"Organization of the Fight Against Tuberculosis", Tuberkulez, Chap. 34, pp 341-364, 1952.

SO: Translation-M-809, 10 Oct 1955.

LEVITIN, P. I. professor (Moskva)

Methods for training tuberculosis specialists. Vrach. delo no.1:77-79
Ja '57 (MLRA 10:4)

1. Vtoraya kafedra tuberkuleza (zav.-chlen-korr. AMN SSSR. V.A.
Ravich-Shcherbo) Tsentral'nogo instituta usovershenstvovaniya vrachey.
(TUBERCULOSIS) (MEDICINE--SPECIALTIES AND SPECIALISTS)

LEVITIN, F.I., Prof.

Methods of eradication of tuberculosis as a mass disease in USSR. Sovrem. med., Sofia 8 no.11:3-11 1957.

1. Iz Instituta za usovurshenstvuvane na lekarite Direktor: P. V. Lebedeva (Zav. Katedrata no tuberkuloza: prof. A. E. Rabukhin).
(TUBERCULOSIS, prevention and control,
in Russia (Bul))

LEVITIN, P.I., prof. (Moscow)

Ways for eradicating tuberculosis as a common disease in the
U.S.S.R. Vrach.delo no.4:417-419 Ap '58 (MIRA 11:6)

1. Tsentral'nyy institut usovershenstvovaniya vrachey.
(TUBERCULOSIS)

SORKIN, I.B., prof.; LEVITIN, F.I., prof., red.

[Tuberculous meningitis] Tuberkuleznyy meningit. Pod red.
F.I.Levitina. Moskva, TSentr. in-t usovershenstvovaniia
vrachey, 1959. 174 p. (MIRA 13:3)
(TUBERCULOUS MENINGITIS)

LEVITIN, F.I., prof., red.; MOHEL', L.M., prof., red.; PEREL'MAN, M.I.,
dotsent, red.; PETRIK, V.P., red.

[Current problems in tuberculosis] Aktual'nye voprosy tuber-
kuleza. Pod red. F.I.Levitina i dr. Moskva, 1960. 261 p.
(MIRA 13:12)

1. Moscow. TSentral'nyy institut usovershenstvovaniya vrachey.
(TUBERCULOSIS)

LEVITIN, F.I., prof.

Means and methods for improving phthisiologists. Probl.tub. no.4:
18-21 '61. (MIRA 14:12)

1. Iz Tsentral'nogo instituta usovershenstvovaniya vrachev
(dir. M.D. Kovrigina, zav. kafedroy tuberkuleza - prof. A.Ye.
Rabukhin). (TUBERCULOSIS) (PHYSICIANS)

LEVITIN, F.I.; GOL'DENTSEYN, V.D.; PROKHOROV, Ye.P.; POKHODIN, V.A.

Tuberculin reactions in elderly persons with pulmonary tuberculosis. Trudy TSIU 63:56-63 '63. (MIRA 17:9)

1. Kafedra tuberkuleza Tsentral'nogo instituta usovershenstvovaniya vrachey i Klinicheskaya bol'nitsa "Zakhar'ino", Moskva.

LEVITIN, F.I.

Role of mass BCG vaccination in the decrease of tuberculosis
incidence. Akt. vop. tub. no.2:26-32 '63. (MIRA 17:9)

LEVITIN, P.I.; GOLUBINSKI, V.D.; KOSHEV, V.I. LIZIN, V.I.

Clinical importance of the diagnostic use of tuberculin. Akt.
vop. tub. no. 18:17-18, 1963. (MIRA 17:9)

LEVITIN, E.I.; GOL'DENSTEYN, V.D.; KUDISH, E.A.; PROKHOROV, Ye.P.; FRADKIN, V.A.;
CHAUISOVSKAYA, M.M.

Technic and evaluation of the results of tuberculin tests. Probl.
tub. no.7:9-16 '63. (MIRA 18:1)

1. Iz kafedry tuberkuleza (zav. - zasluzhennyy deyatel' nauki prof.
A.Ye. Rabukhin) Tsentral'nogo instituta usovershenstvovaniya vrachey.

RABUKHIN, A. Ye. (Moskva, Leningradskiy prospekt, 75-a, kv.56);
PEREL'MAN, M.I.; ALEXSEYEVA, V.M.; GARGOLOVA, V.O.; GOROKHOVA,
Ye.M.; IOFFE, F.M.; LEVITIN, F.I.

Significance of compound treatment in the effectiveness of
surgical interventions in pulmonary tuberculosis. Vest. khir.
92 no.4:28-32 Ap '64 (MIRA 18:1)

1. Iz kafedry tuberkuleza Tsentral'nogo instituta usovershen-
stvovaniya vrachev (rektor - M.D. Kovrigina) bol'nitsy Mi-
nisterstva putey soobshcheniya (glavnyy vrach - A.A.Potsube-
yenko) i klinicheskoy bol'nitsy "Zakhar'ino" (glavnyy vrach
V.P.Petrik).

LEVITIN, I A

CA

30

The introduction of antioxidant into rubber. S. L. Talmud and I. A. Levitin. *Soviet Aspects* 1936, No. 5, p. 8. Agriite was dissolved in the fraction stove (10% from the fractional distn. of higher aks. in mfg. synthetic rubber (100 g. of aks. and 50 g. of Agriite), in an anthracene oil. The soln. was milled into the rubber, and better dispersion of Agriite was obtained. Photomicrographs are given. Three references. A. Probst

ASD-51A METALLURGICAL LITERATURE CLASSIFICATION

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A-Z										0-9										A-Z										0-9									
<i>LEVITIN, I. A.</i> <i>ca</i> <i>10</i> Lowering the melting point of aldel-α-naphthylamine. S. I. Tolstov, I. A. Levitin and B. M. Volovik. Russ. 57,184, May 31, 1940. Stearic acid, castor oil or oleic acid is added to aldel-α-naphthylamine to lower its m. p.																																							
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APPROVED FOR RELEASE: 07/12/2001

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LEVITIN, I.A.; POLOSIN, Ye.N.; BYSTROVA, Z.L.; LADYNINA, E.F.; DORONINA, T.P.

Intensifying the production of resorcinol-formaldehyde solutions
for latex impregnation compounds. Kauch.i rez. 21 no.1:47-49 Ja
'62. (MIRA 15:1)

1. Moskovskiy shinnyy zavod.
(Tire fabrics)

37178

S/138/62/000/004/005/008
A051/A126

15.9.30

AUTHORS: Levitin I.A.; Ronkin, G.M.

TITLE: A comparison of the effectiveness of various vulcanizing systems for the production of thermoresistant rubbers from butyl rubber

PERIODICAL: Kauchuk i rezina, no. 4, 1962, 14 - 19

TEXT: A study was made at the Moscow Tire Plant of the three systems used in vulcanizing butyl synthetic rubber: 1) sulfur with organic accelerators; 2) paraquinonedioxime with sulfur and organic accelerators or oxidizing agents (PbO , Pb_2O_3 , Pb_3O_4); 3) resol alkyl-substituted phenolformaldehyde resins. It was attempted to produce the highest possible thermoresistant vulcanizate. The polysar-butyl-400 from the Canadian "Polymer Corporation" and the equivalent synthetic rubber from the French "Socabu" Plant, C-34 (S-34), were used in the experiments. The following ultra-accelerators are recommended: diethyl, tellurium, dithiocarbamate, selenium, zinc, bismuth and lead. It was established that paraquinonedioxime can form more stable transverse bonds than sulfur. It was established further that by increasing the vulcanization temperature the vulcanization process of the butyl rubber with resins can be considerably accelerated. There

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A comparison of the effectiveness of

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A051/A126

is no danger of scorching. The following general conclusions were drawn: The comparative study of the various vulcanizing systems for the production of the thermostable butyl rubbers showed that the sulfur vulcanizates of the butyl rubber were the least thermoresistant, the sulfo-quinoid vulcanizates were more thermoresistant. The major shortcoming of the sulfo-quinoid vulcanizing system is the elevated tendency to scorching of the mixtures. The vulcanization of the butyl rubber with resol alkylsubstituted phenolformaldehyde resins is the most effective and most promising in producing thermoresistant rubbers. The major shortcoming of this type of vulcanization is the slower vulcanization rate, which can be eliminated by introducing small quantities of activating substances and conducting the vulcanization process at elevated temperatures (up to 200°C). The properties of the vulcanizates deteriorate if highly unsaturated rubbers or a mixture of sulfurous and resinous vulcanizing systems are introduced into the butyl rubber mix. The latter is due to the mutual deactivating effect of the two systems. There are 3 tables and 6 figures. The references to the most recent English-language publications are as follows: C.J. Jankowski, K.W. Powers, R.L. Zapp, Rub. Age, 87 no. 5, 853 (1960); F.M. Smith, Rub. World, 139, no. 4, 533 (1959).

ASSOCIATION: Moskovskiy shinnyy zavod (Moscow Tire Plant)

Card 2/2

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9/138/62/000/008/007/007
A051/A126

15 1300

AUTHORS: Lovitin, I. A., Poloskin, Ye. N., Petrova, V. D., Marchenko, Ye. D.

TITLE: Apparatus for testing ozone resistance of rubber

PERIODICAL: Kauchuk i rezina, no. 8, 1962, 51 - 53

TEXT: The Moscow Tire Plant has developed and perfected a new apparatus for dynamic testing of the ozone resistance of rubber, based on experiments by the NIIShP and the principle used at the NIIRP. The apparatus determines the ozone resistance under dynamic conditions by periodic expansion of standard rubber samples in a chamber where a given ozone concentration is maintained. The schematic diagram is shown in Figure 2. The test conditions for tread rubber are given by the following figures: constant expansion 15%, variable expansion 25%, expansion frequency 15/min, rate of air supply into the chamber 2ℓ/min, ozone concentration in the chamber $(1 \pm 0.2) \cdot 10^{-4}$ w.p. The disadvantages of the apparatus are: lack of automatic control of ozone concentration and the impossibility of creating temperature conditions within the testing chamber. There are 2 figures.

ASSOCIATION: Moskovskiy Shinnyy Zavod (The Moscow Tire Plant)

Card 1/1

S/138/62/000/011/007/008
A051/A126

AUTHORS: Levitin, I.A., Galkovich, A.A.

TITLE: The utilization of new reclaimed-rubber types in the tire industry

PERIODICAL: Kauchuk i rezina, no. 11, 1962, 49 - 51

TEXT: In 1961, the Moscow Tire Plant made a study of the properties of two experimental batches of reclaimed rubber. The results of the study are submitted. The first batch was produced by the thermo-mechanical method from tread rubber, based on SKS-30AM rubber (TMR); and the second batch by the dispersion method from SKS-30ARM-15 tread rubber (DR). The properties were compared to those of serial tread and casing reclaimed rubbers, produced by the water-neutral method (VRP and VRK). The GOST 3350-54 standard mix was used to test the experimental batches. All three types of mixes, TMR, DR, and VR, are equal in their strength of adhesion to cord. The new tread mixes have a somewhat lower elastic recovery, especially the DRs. Tendency to scorching is the same in all three types. The DR mixes have a lower relative elongation, crack growth resistance and strength of adhesion to the breaker than the VRs. It is concluded

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The utilization of new reclaimed-rubber types

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A051/A126

that the TMR mixes are superior to the serial type, both in technology and physico-mechanical properties. The improved indices of the new reclaimed rubber types increases their use in the tire industry without lowering the quality of the mixes. The new reclaimed rubber is recommended for use in industry. There are 4 tables. ✓

ASSOCIATION: Moskovskiy shinny zavod (Moscow Tire Plant)

Card 2/2

S/138/62/000/010/008/008
AO51/A126

AUTHORS: Levitin, I. A., Chernevskaya, N. N.

TITLE: The application of CKMC -30 APKM -15 (SKMS-30 ARKM-15)
rubber in tire mixes

PERIODICAL: Kauchuk i rezina, no. 10, 1962, 53 - 56

TEXT: A study was made of the properties of regulated SKMS-30 ARKM-15 rubber, containing ПН-6 (PN-6) (14 - 17%) petroleum; and when being produced using a mixture of disproportionated colophony and fatty acid soaps as emulsifier. Its properties were compared to those of SKS-30 ARM-15, produced with a nekal emulsifier. Comparisons were also made with euoprene 1500 and 1712, at a ratio of 1:1. It was found that the SKMS-30 ARM-15 rubber has a higher rate of vulcanization than the SKS-30 ARM-15 and the SKMS-30 ARM-15 mix, when mixed with the euoprene 1500 and 1712. Tread and casing vulcanizate mixes of SKMS-30 ARKM-15 have higher moduli, tensility, elasticity at 100°C, wear resistance, strength of adhesion, but a lower tear resistance than vulcanizates of the same mixes based on SKMS-30 and SKS-30 ARM-15. Tread mixes based on SKMS-30, ARKM-15,

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The application of...

SKS-30 and APM-15 with SKMS-30 ARM-15, at the same Defo hardness, have about equal Carriere plasticity and the same flow duration on a press plastomer. The tread SRMS-30 ARKM-15 mixtures have a higher elasticity recovery and a somewhat higher tendency to scorching. The SKMS-30 ARKM tread rubbers were found to have a low crack-growth resistance. The physico-mechanical properties of the tread and casing SKMS-30 ARKM-15 rubber are equivalent to the euoprene 1500 and 1712 (1:1) combination. When preparing tread mixes based on 100% butadiene-styrene rubber, it is recommended using SKMS-30 ARKM rubber of the first group, i.e., with a Defo hardness of 400 - 600 g, as opposed to the second group with a Defo hardness of 600 - 750 g. The recommended rubber ensures satisfactory technological properties of the mixes and sufficiently high physico-mechanical properties of the vulcanizates. There are 3 tables and 1 figure. ✓

ASSOCIATION: Moskovskiy institut tonkoy khimicheskoy tekhnologii im. M. V. Lomonosova (Moscow Institute of Fine Chemical Technology im. M. V. Lomonosov)

Card 2/2

LEVITIN, I.A.; RONKIN, G.M.

Comparing the effectiveness of various vulcanizing systems for
the production of heat-resistant butyl rubbers. Kauch.i rez. 21
no.4:14-19 Ap '62. (MIRA 15:4)

1. Moskovskiy shinnyy zavod.
(Butyl rubber) (Vulcanization)

LEVITIN, I.A.; POLOSIN, Ye.N.; KALACHEVA, A.V.; DORONINA, T.P.

Polarographic study of the condensation of resorcinol with formaldehyde
in solutions used in the preparation of latex impregnation compounds.
Kauch.i rez. 21 no.7:46-49 J1 '62. (MIRA 15:7)

1. Moskovskiy shinnyy zavod.
(Resorcinol) (Formaldehyde) (Polarography)

LEVITIN, I.A.; GALKOVICH, A.A.

Use of the new types of reclaimed rubber in the tire industry.
Kauch.i rez. 21 no.11:49-51 N '62. (MIRA 15:12)

1. Moskovskiy shinnyy zavod.
(Rubber, Reclaimed)

LEVITIN, I.A.; POLOSIN, Ye.N.; PETROVA, V.D.; MARCHEV'KO, Ye.D.

Unit for rubber testing for ozone resistance. Kauch.i rez. 21
no.8:51-53 Ag '62. (MIRA 16:5)

1. Moskovskiy shinnyy zavod.

(Rubber--Testing)

L 13661-63

EWP(j)/EWT(m)/BDS AFFTC/ASD Pc-4 RM

ACCESSION NR: AP3001427

8/0138/63/000/004/0014/0017

AUTHOR: Levitin, I. A.; Poloskin, Ye. N.; Petrova, V. D.; Marchenko, Ye. D. 36

TITLE: An investigation of physical antiozonants of various origin

SOURCE: Kauchuk i rezina, no. 4, 1963, 14-17

TOPIC TAGS: ozone, antiozonant, paraffin, ceresine, wax, rubber

ABSTRACT: The antiozonants under study were domestic paraffins, natural and synthetic ceresines, as well as imported microcrystalline waxes, which were presumably mixtures of paraffins and isoparaffins. Their density, viscosity, softening point, and microscopic picture were studied. The paraffins are characterized by large crystals and a low basic viscosity at 35C of 9-16 Eta, the ceresines having a microcrystalline structure and a basic viscosity of 19-38 Eta, while the imported waxes showed basic viscosities of 16-44 Eta. Superior brands of 100% NK and BCK protector-type rubber, containing 2% of the above physical antiozonants, were placed in a chamber containing 1/10000% by weight of ozone. Under static conditions, the imported waxes, a ceresine brand, as well as some domestic paraffins were able to protect the surface cracking of rubber for a 100-minute period, while the protective effect of the remaining paraffins and ceresines did not last over 17-20 minutes. Under dynamic conditions, on the other hand, two ceresines, with melting points of

Cord 1/2

L 13661-63

ACCESSION NR: AP3001427

90.8 and 72.6C, showed some protective effect. The balance of the antiozonants under study exhibited no beneficial effect whatsoever. It is suggested that while under static conditions a paraffin or ceresine may provide protection against the destructive effect of ozone by film formation on the surface of the rubber, the said film would crack under the impact of dynamic stresses. The present work was conducted at the All-Union Scientific Research Institute of the Oil Industry. Orig. art. has: 2 charts and 1 table. 2

ASSOCIATION: Moskovskiy shinnyy zavod (Moscow Tire Factory)

SUBMITTED: 00

DATE ACQ: 30May63

ENCL: 00

SUB CODE: 00

NO REF SOV: 002

OTHER: 002

Cord 2/2

L 17101-63

ENP(j)/ENP(q)/ENT(m)/BDS AFFTC/ASD Pc-4 RM/JD

ACCESSION NR: AP3004259

S/0138/63/C/C/007/0041/0044

AUTHORS: Levitin, I. A.; Galkovich, A. A. ✓

65
64

TITLE: Effect of sulfur content in FM-70 type carbon black on the properties of protector compounds

27

SOURCE: Kauchuk i rezina, no. 7, 1963, 41-44

TOPIC TAGS: free sulfur, bound sulfur, protector-type vulcanized rubber, protector compound

ABSTRACT: Tests were conducted with two samples of furnace carbon black, prepared by NIISHP (Scientific Research Institute of the Tire Industry). Sample 1 contained 1.6% of bound sulfur and 0.13% free sulfur, sample 2 contained 0.5% combined sulfur and 0.08% free sulfur. These carbon blacks were incorporated into compounds based on natural as well as on synthetic butadiene-styrene rubber. The physical-chemical properties of these, as well as of their vulcanizates, were estimated. Compounds containing sample 1 carbon black had a somewhat lower plasticity, higher plastic resilience, and a trend to subvulcanization. They were also characterized by a somewhat greater modulus, lesser relative elongation, and smaller resistance to extension of cracks. Another series of tests were conducted using carbon black

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L 17101-63

ACCESSION NR: AP3004259

samples from the Omsk plant, containing from 0.14 to 0.45% free sulfur and 1.26% total sulfur and samples from the Barnaul' plant with from 0.11 to 0.40% free sulfur and 1.27% total sulfur. When the amount of free sulfur in the samples of carbon black used for compounding exceeded 0.25%, the resulting rubbers and their vulcanizates exhibited properties similar to those of the first series. The recommendation is made to set a limit of 1% bound sulfur and 0.1% of free sulfur for carbon blacks intended for protector compounds. Orig. art. has: 2 charts and 3 tables.

ASSOCIATION: Moskovskiy shinnyy zavod (Moscow Tire Factory)

SUBMITTED: CO

DATE ACQ: 21Aug63

ENCL: CO

SUB CODE: CH

NO REF COV: 000

OTHER: 000

Card 2/2

RONKIN, G.M.; LEVITIN, I.A.; SHVARTS, A.G.

Vulcanization of butyl rubber with alkyl phenol-formaldehyde resins
in the presence of metal chlorides. Kauch.i rez. 22 no.1:15-19
Ja '63. (MIRA 16:6)

1. Moskovskiy shinnyy zavod i Nauchno-issledovatel'skiy institut
shinnoy promyshlennosti.

(Rubber, Synthetic) (Vulcanization)

RONKIN, G.M.; LEVITIN, I.A.

Minimum unsaturation of butyl rubber for heat-resistant rubbers.
Kauch. i rez. 22 no.9:4-9 S '63. (MIRA 16:11)

1. Moskovskiy shinnyy zavod.

EYTINGON, I.I.; FEL'DSHTEYN, M.S.; LEVITIN, I.A.; KAMENSKAYA, S.A.

Investigating some phthalimide derivatives as preventers of premature vulcanization of rubber compounds. Kauch. i rez. 22 no.11:20-23 N '63. (MIRA 17:2)

1. Nauchno-issledovatel'skiy institut shinnoy promyshlennosti i Moskovskiy shinnyy zavod.

ACCESSION NR: AP4034470

S/0138/64/000/004/0015/0019

AUTHORS: Ronkin, G. M.; Levitin, I. A.; Shvarts, A. G.

TITLE: Effect of various ingredients in rubber compounds on the vulcanization of rubbers by alkylphenolformaldehyde resins

SOURCE: Kauchuk i rezina, no. 4, 1964, 15-19

TOPIC TAGS: rubber vulcanization, alkylphenolformaldehyde resin vulcanizer, vulcanization promoter, vulcanization inhibitor, reactive promoter group, methylol group, butyl rubber, rubber SKN 40, rubber SKS 30 RP

ABSTRACT: Studies were conducted on the vulcanization of butyl-, SKN-40-, SKS-30-, Nairit A-, and natural rubber, containing per 100 gm rubber, 10 gm alkylphenol-formaldehyde resin 101K, 60 gm KhAF carbon black, and 1 gm stearic acid. To each of these compounds were added 0.003 mole quantities of one of the 26 investigated ingredients. These additives included vulcanizing agents (such as sulfur or paraquinonedioxime), accelerators (such as thiuram or diphenylguanidine), and antioxidants (such as Neozone D or Product 4010). The samples were worked on laboratory rolls, vulcanized at 161C for 60 minutes, and tested for their physico-mechanical properties. It was found that in the presence of these additives the

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ACCESSION NR: AP4034470

vulcanization rate and the number of cross-links were reduced and the properties of the materials deteriorated. Compounds containing amino or thiol groups proved most deleterious to the vulcanization of rubber by resin 101K. The authors assume that this effect is caused by the interaction between the methylol groups of the resin and the mobile hydrogen atoms of the amino and sulphydryl groups. The possibility of similar deleterious reactions taking place between the methylol groups of the cord-impregnating resin and the coating-rubber compound is also noted. Orig. art. has: 2 tables, 3 charts, and 2 formulas.

ASSOCIATION: Moskovskiy shinnyy zavod (Moscow Tire Plant)

SUBMITTED: 00

DATE ACQ: 13May64

ENCL: 00

SUB CODE: CH

NO REF SOV: 002

OTHER: 000

Card 2/2

ACCESSION NR: AP4038906

S/0138/64/000/005/0004/0007

AUTHORS: Bilalov, Ya. M.; Koshchev, F. F.; Korablev, Yu. G.; Levitin, I. A.

TITLE: The utilization of standard cis-butadiene rubber SKD in protector rubber compounds

SOURCE: Kauchuk i rezina, no. 5, 1964, 4-7

TOPIC TAGS: protector rubber compound, cis butadiene rubber SKD, butadiene methylstyrene rubber SKMS 30ARKM15, plasticizer PN.6, carbon black KhAF, carbon black PM70, carbon black AySAF, protector compound technological property

ABSTRACT: Data are reported on the properties of protector rubber compounds obtained by combining cis-butadiene rubber SKD with butadiene-methylstyrene rubber SKMS-30 ARKM-15. The issuing material consisted of a typical protector compound on a SKMS-30 ARKM-15 base, filled with 50 parts (by weight) of carbon black of the KhAF type, various amounts of which were replaced by SKD. It was found that the compound containing 50 parts of SKD (vulcanized at 151C) showed high hardness, plasticity, and scorching tendency, but had a low resistance to cracking. All of its properties related to wear resistance showed a substantial improvement. Other tests were conducted on the effect of adding various

Card 1/2

ACCESSION NR: AP4038906

amounts of plasticizer PN-6 on the properties of rubber compounds containing the above rubbers in a 1:1 ratio. It was found that the incorporation of 15% plasticizer resulted in improved plastoelastic properties of the raw mixes and in improved elastic and dynamic properties of the vulcanizates. Experiments were also conducted on the effect of furnace carbon blacks KhAF, AySAF and PM-70 on the physicochemical properties of SKD-SKM-30 ARKM-15 vulcanizates. It was found that these carbon blacks produced vulcanized rubbers with high resistance to wear and satisfactory technological properties. Orig. art. has: 4 tables and 1 chart.

ASSOCIATION: Moskovskiy institut tonkoy khimicheskoy tekhnologii im. M. V. Lomonosova (Moscow Institute of Fine Chemical Technology); Moskovskiy shinnyy zavod (Moscow Tire Plant)

SUBMITTED: 00

DATE ACQ: 05Jun64

ENCL: 00

SUB CODE: MT

NO REF SOV: 001

OTHER: 002

Cord 2/2

"APPROVED FOR RELEASE: 07/12/2001

CIA-RDP86-00513R000929620013-9

APPROVED FOR RELEASE: 07/12/2001

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"APPROVED FOR RELEASE: 07/12/2001

CIA-RDP86-00513R000929620013-9

NAME: [REDACTED]

APPROVED FOR RELEASE: 07/12/2001

CIA-RDP86-00513R000929620013-9"

RONKIN, G.M.; LEVITIN, I.A.; SHVARTS, A.G.

Effect of various ingredients of resin mixtures on the vulcanisation of rubbers with alkyl phenol formaldehyde resins. Kauch. 1
res. 23 no.4:15-19 Ap'64 (MIRA 17:7)

1. Moskovskiy shinnyy zavod.

BIALOV, Ya.M.; KOSHELEV, F.F.; KORABLEV, Yu.G.; LEVITIN, I.A.

Use of the regular SKD cis-butadiene rubber in tread rubber.
Kauch. i rez. 23 no.5:4-7 My '64. (MIRA 17:9)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii im. M.V.
Lomonosova i Moskovskiy shinnyy zavod.

RONKIN, G.M.; LEVITIN, I.A.; SHVARIS, A.G.; EYTINGON, I.I.

Effect of alkylphenol formaldehyde resins on sulfur vulcanization
of butyl rubber. Kauch. i rez. 23 no.11:22-24 N '64. (MIRA 18:4

1. Moskovskiy shinnyy zavod : Nauchno-issledovatel'skiy institut
shinnoy promyshlennosti.

ACCESSION NO: AP5005390

S/0135/65/000/002/0010/0012

AUTHOR: Bilalov, Ya. M.; Koshelev, P. P.; Korabiev, Yu. G.; Levitin, I. A.

26

"APPROVED FOR RELEASE: 07/12/2001

CIA-RDP86-00513R000929620013-9

APPROVED FOR RELEASE: 07/12/2001

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CIA-RDP86-00513R000929620013-9"

"APPROVED FOR RELEASE: 07/12/2001

CIA-RDP86-00513R000929620013-9

APPROVED FOR RELEASE: 07/12/2001

CIA-RDP86-00513R000929620013-9"

BILALOV, Ya.M.; KOSHELEV, F.F.; KORABLEV, Yu.G.; LEVITIN, I.A.

Use of polyethylene in rubber compounds. Kauch. i rez. 24
no.2:10-12 F '65. (MIRA 18:4)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii im.
M.V.Lomonosova i Moskovskiy shinnyy zavod.

(A) L 8499-66 ENT(m)/EMP(j) RM

ACC NR: AP5028479

SOURCE CODE: UR/0286/65/000/020/0064/0064

AUTHORS: ⁴⁴Levitin, I. A.; ⁴⁴Gromova, L. G.; ⁴⁴Petrova, V. D.; ⁴⁴Ioffe, A. I.; ⁴⁴Marchenko, Ye. D. ⁴⁴

ORG: none

TITLE: A method for obtaining rubbers. Class 39, No. 175644 ¹⁵

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 20, 1965, 64

TOPIC TAGS: ⁴⁴rubber, ozone, antiozonant, cerisin, paraffin, petrolatum/ AF antiozonant mixture

ABSTRACT: This Author Certificate presents a method for obtaining rubber by applying a waxlike antiozonant. To increase the resistance of rubber to ozone, mixture AF, consisting of natural cerisin (30-70 wt parts), synthetic cerisin (20-5 wt parts), paraffin (40-10 wt parts), and petrolatum (10-0 wt parts), is used as the waxlike antiozonant. Mixture AF may be applied together with chemical antiozonants.

SUB CODE: 07, 11/ SUBM DATE: 11Sep62

⁶¹⁴
Card 1/1

UDC: 678.7.048
665.436.432

L 11779-66 EWT(m)/EWP(j)/T RM

ACC NR: AP6001094

SOURCE CODE: UR/0138/65/000/012/0024/0025

AUTHOR: ^{4/11}Levitin, I. A.; ^{4/14}Petrova, V. D.; ^{4/11}Marchenko, Ye. D.; ^{1/1}Ioffe, A. I. 52

ORG: ^{4/11}Moscow Tire Plant (Moskovskiy shinnyy zavod) B

TITLE: Development and use of a waxlike antiozonant in automobile tire treads 5, 44

SOURCE: Kauchuk i rezina, ^{2/1}no. 12, 1965, 24-25

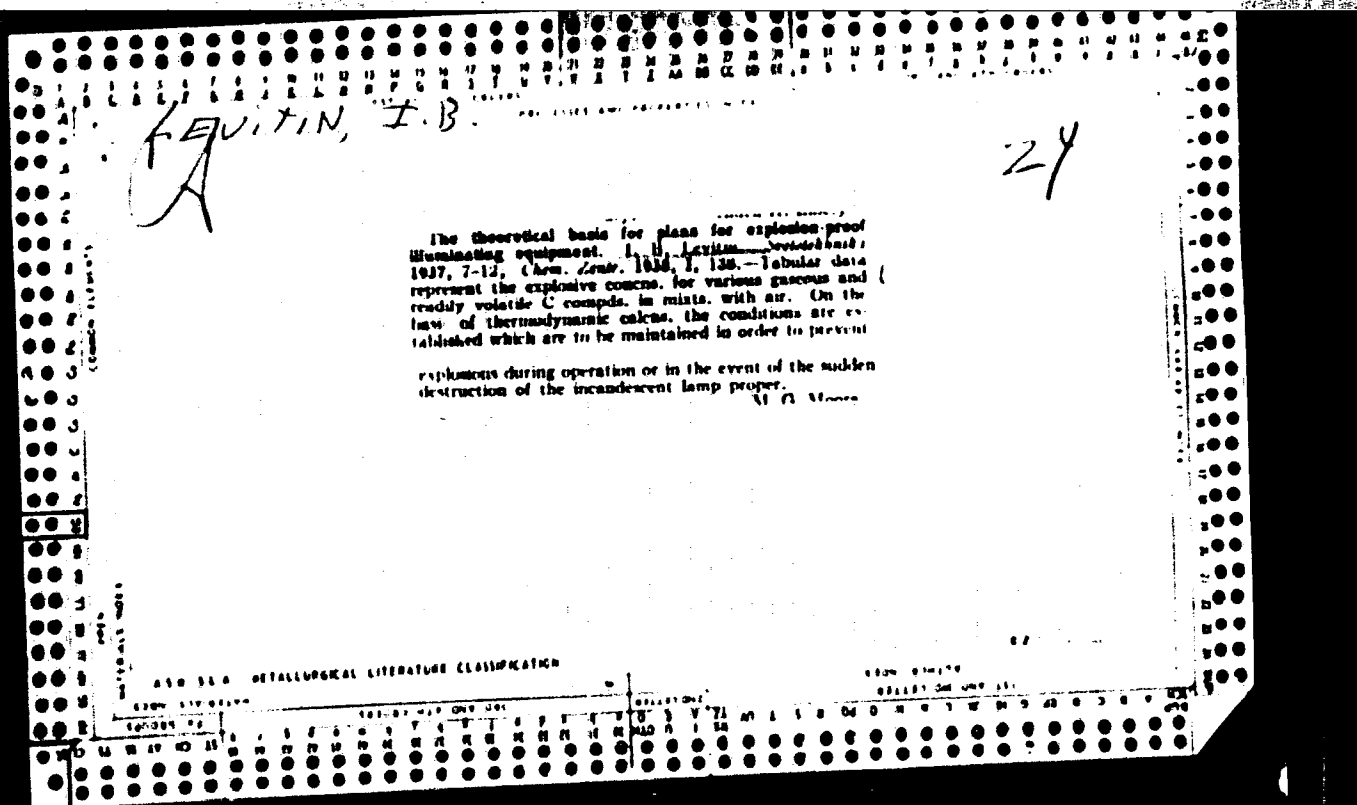
TOPIC TAGS: rubber chemical, antioxidant additive, *resin, synthetic rubber, vehicle component*

ABSTRACT: The Moscow Tire Plant (Moskovskiy shinnyy zavod) and ^{4/11}Moscow Petroleum and Oil Refinery (Moskovskiy neftemaslozavod) developed a waxlike antiozonant composed of natural and synthetic ceresin, paraffin, and petrolatum, the content of ceresins being predominant. A thorough study of the new antiozonant, AF-1, was carried out in tread rubbers composed of 100% SKMS-30ARKM. The protective properties of AF-1 were found to compare very favorably with those of Antilux, an imported antiozonant. AF-1 has now replaced Antilux at the Moscow Tire Plant, and its use in the tire and rubber industry for protection of rubber treads against ozone cracking is highly recommended. Orig. art. has: 2 figures and 3 tables.

SUB CODE: 11, 13 / SUBM DATE: none / ORIG REF: 003

^{HW}
Card 1/1

UDC: 678.048.004.12.004.14



PHASE I BOOK EX

SOV/3578

Levitin, Isidor Borisovich

Tekhnika infrakrasnykh izlucheniye (Technology of Infrared Radiation)

Moscow, Gosenergoizdat, 1959. 76 p. (Series: Massovaya radiobiblioteka, vyp. 350) 35,000 copies printed.

Ed.: F.I. Tarasov; Tech. Ed.: P.M. Asanov; Editorial Board: A.I. Berg, F.I. Burdeynyy, V.A. Burlyand, V.I. Vaneyev, Ye.N. Genishta, I.S. Dzhigit, A.M. Kanayeva, E.T. Krenkel', A.A. Kulikovskiy, A.D. Smirnov, F.I. Tarasov, and V.I. Shamshur.

PURPOSE: This book is intended for radio amateurs

COVERAGE: The book informs the reader about the fundamentals of infrared radiation technology and applications of infrared radiation in science, national economy, military affairs, etc. The book deals briefly with the nature of infrared radiations, their properties, and methods of their generation and reception. No personalities are mentioned. There are no references.

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Technology of Infrared Radiation

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AVAILABLE: Library of Congress (QC457.L55)

Card 4/4

JF/gmp
5-23-59

PHASE I BOOK EXPLOITATION SOV/5640

Levitin, Isidor Borisovich

Fotografiya v infrakrasnykh luchakh (Infrared Photography) Moscow, Voenizdat M-va obor. SSSR., 1961. 191 p. 15,000 copies printed.

Ed.: A. V. Vrublevskiy, Engineer, Lieutenant Colonel; Tech. Ed.: N. V. Sribnis.

PURPOSE : This book is intended for the general reader interested in problems of infrared photography.

COVERAGE: The book presents, in a popular form, the fundamentals of using infrared rays in photography at considerable distances and under conditions of bad visibility. Soviet and non-Soviet publications were used as sources. The nature and sources of infrared rays (used for purposes of photography), their passage through the atmosphere, principles of infrared photography and the fields of its application, and materials for infrared photography

Card 1/9

Infrared Photography

SOV/5640

and methods of processing them are discussed. Examples of military uses of infrared photography in the USSR and abroad are described. No personalities are mentioned. There are 12 references: 10 Soviet, 1 English, and 1 German.

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L 2634-66 ENT(1)/T/ED(b)-3 IMP(c)
ACCESSION NR: AP5018803

UR/0311/65/000/008/0001/0007
621.384.3

AUTHOR: Levitin, I. B. (Candidate of technical sciences)

TITLE: Calculation of infrared-irradiation outfits by the N. N. Yermolinskiy
method

SOURCE: Svetotekhnika, no. 8, 1965, 1-7

TOPIC TAGS: IR irradiation, IR source

ABSTRACT: The late N. N. Yermolinskiy's works completed in 1947-51 but not yet published are briefly set forth. The rate of heating of an object by IR radiation is given by: $dT/dt = (\alpha F - W_c - W_r) / \Sigma \epsilon g$, where T is the object temperature at the moment t; dT is the temperature increment over the time dt; W_c and W_r are the convection and radiation heat losses from the surface of the object per unit time; ϵ is the specific heat and g is the weight of the object. Formulas for the IR flux absorbed by the object, heat losses, radiation

Cord 1/2

L 2634-66

ACCESSION NR: AP5018803

coefficients, etc., are derived. Procedures for calculating the irradiation density from a specified temperature are given. The formulas are claimed to have been verified by experiments at the IF Heating Laboratory, Central Design Bureau of Ultrasonic and HF Outfits, Leningrad. The formulas have been used in the design of various IF heating installations (fish treatment, bakelite-coat drying, lacquer-coat drying, etc.). Orig. art. has: 5 figures, 34 formulas, and 3 tables.

ASSOCIATION: Severo-zapadnyy zaachnyy politekhnicheskly institut
(North-Western Correspondence Polytechnic Institute)

SUBMITTED: 00

ENCL: 00

44.55
SUB CODE: OP, TD

NO REF SOV: 002

OTHER: 002

Card 2/2 JP

LEVITIN, I.B., kand.tekhn. nauk

More about terminology. Svetotekhnika 5 no.12:26-27
D '59. (MIRA 13:4)
(Electric lighting—Terminology)

DADIOMOV, Maks Samuilovich; SAPOZHNIKOV, R.A., doktor tekhn.nauk, prof.,
retsensent; LEVITIN, I.B., kand.tekhn.nauk, red.; ZHITNIKOVA, O.S.,
tekhn.red.

[Lighting with floodlights] Prozhektornoe osveshchenie. Moskva,
Gos.energ.izd-vo, 1960. 211 p. (MIRA 14:6)
(Electric lighting)

LEVITIN, Isidor Borisovich; LEONT'YEV, Aleksandr Sergeyevich;
MESSEKOV, V.V., doktor tekhn. nauk, retsentsent; BARSHAY,
M.M., inzh., retsentsent; DUBOVIK, V.A., nauchnyy red.;
GOLUBEVA, N.P., red.; FRUMKIN, P.S., tekhn. red.

[Lighting engineering on ships] Sudovaya svetotekhnika.
Leningrad, Sudpromgiz, 1963. 300 p. (MIRA 16:5)
(Electric lighting of ships)

LEVITIN, I.B., kand.tekhn.nauk; MYASNIKOVA, N.G., inzh.; POPOVA, K.B.,
nauchnyy sotrudnik; SINTSOV, V.N., nauchnyy sotrudnik

Study of the temperature fields of electrical apparatus using an
evaporograph. Vest. elektroprom. 34 no.1:18-23 Ja '63. (MIRA 16:1)

(Electric apparatus and appliances)
(Temperature--Measurement)

DADIOMOV, Maks Samuilovich; POLLAK, Sergey Vladimirovich[deceased];
KNORRING, G.M., kand. tekhn.nauk, retsenzent; LEVITIN, I.B.,
kand. tekhn.nauk, retsenzent; SOBOLEVA, Ye.M., tekhn. red.

[Illumination of construction sites] Osveshchenie stroitel'-
nykh ploschadok. Moskva, Gosenergoizdat, 1962. 198 p.
(MIRA 15:6)

(Building sites) (Electric lighting)

VOLOTSKOY, Nikolay Vasil'yevich; LEVITIN, I.B., red.; ZHITNIKOVA,
O.S., tekhn. red.

[Fluorescent lamps and diagrams for connecting them to the
electrical network] Liuminestentnye lampy i skhemy ikh vklju-
chenia v set'. Moskva, Gosenergoizdat, 1962. 43 p. (Biblio-
teka elektromontera, no.68) (MIRA 15:12)
(Electric lighting) (Fluorescent lamps)

YEPANESHNIKOV, Mikhail Mikhaylovich; KNORRING, G.M., kand. tekhn.
nauk, retsenzent; LEVITIN, I.B., kand. tekhn. nauk, retsen-
zent; KOMAR, M.A., red.; BUL'DYAYEV, N.A., tekhn. red.

[Electric lighting]Elektricheskoe osveshchenie. Izd.3., perer.
i dop. Moskva, Gosenergoizdat, 1962. 335 p. (MIRA 16:1)
(Electric lighting) (Electric light fixtures)

LEVITIN, Isaak Il'ich; DEMINA, V.N., redaktor; KAPRALOVA, A.A., tekhnicheskiiy redaktor

[Accounting for collective farm operations] Operativnaia
otchetnost' kolkhov. Moskva, Gos. statisticheskoe izd-vo,
1955. 102 p. (MIRA 9:4)
(Collective farms--Accounting)

LEVITIN, I. B.

Visibility and camouflaging of ships: the principles and methods of camouflaging
Moskva, Voen. izd-vo, 1949. 145 p. (50-24781).

V215.L4

GAABE, Yulius Eduardovich; LEVITIN, I.I., red.; PRIVEZENTSEVA, A.G., red.;
MELIKHT'YEV, A.M., tekhn.red.

[Collection of problems in agricultural statistics] Sbornik zadach
po statistike sel'skogo khoziaistva. Izd. 2., dop. i perer.
Moskva, Gos. stat. izd-vo, 1958. 173 p. (MIRA 12:1)
(Agriculture--Statistics)

GAABE, Yu.E.; PAVLOV, A.N.; LEVITIN, I.I.; PAN'SHIN, R.V., red.

[Agricultural statistics] Statistika sel'skogo khoziaistva.
Moskva, Izd-vo "Statistika," 1964. 382 p. (MIRA 17:5)

Levitin, I.P.

AL'TSHULER, Z.Ye., inzh.; BASTUNSKIY, M.A., inzh.; BERSTEL', V.M., inzh.;
 BIRNBERG, I.E., inzh.; BOGOPOLSKIY, B.Kh., inzh.; BUKHARIN, S.I.,
 inzh.; GERSHTEYN, B.G., inzh.; GRINSHPUN, L.V., inzh.; DREYMER, G.I.,
 inzh.; DIMERSHTEYN, A.G., inzh.; ZLATOPOL'SKIY, D.S., inzh.; KLANYUK,
 A.V., inzh.; KOZIN, Yu.V., inzh.; LEVITIN, I.P., inzh.; MEL'NIKOV,
 L.F., inzh.; MEL'KUMOV, L.G., inzh.; MADEL', M.B., inzh.; PAVLOV,
 N.A., inzh.; PASLUN, D.A., inzh.; PMSIN, B.Ya., inzh.; PYATKOVSKIY,
 P.I., inzh.; RAZNOSCHIKOV, D.V., inzh.; ROZENoyer, G.Ya., inzh.;
 ROZENBERG, R.L., inzh.; ROYTENBERG, N.L., inzh.; RYABINSKIY, Ya.I.,
 inzh.; SYPCHENKO, I.I., inzh.; TABACHNIKOV, L.D., inzh.; FEL'DMAN,
 M.S., inzh.; SHTRAKHMAN, G.Ya., inzh.; SHTERENBOAS, N.S., inzh.;
 INVITIN, I.P., otvetstvennyy red.; STEL'MAKH, A.M., red.isd-va;
 BEKKER, O.G., tekhn.red.

[Overall mechanization and automatization of production processes in
 the coal industry] Kompleksnaya mekhanizatsiya i avtomatizatsiya
 proizvodstvennykh protsessov v ugol'noi promyshlennosti. Pod red.
 I.U.V.Kozina i dr. Moskva, Ugletekhnizdat, 1957. 82 p. (MIRA 11:3)

1. Gosudarstvennyy proyektno-konstruktorskiy institut. 2. Institut
 Giprougleavtomatizatsiya i Tekhnicheskogo Upravleniya Ministerstva
 ugol'noy promyshlennosti (for all except: Levitin, Stel'makh,
 Bekker)

(Automatic control) (Coal mining machinery)

SOV/137-58-9-19781

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 9, p 238 (USSR)

AUTHORS: Khomyakov, K.G., Kholler, V.A., Moiseyeva, Ye.I.,
Reznitskiy, L.A., Levitin, I.Ya.

TITLE: Investigation of Alloys of Magnesium With Cadmium. Communication Nr 2. True Heat Capacity of Alloys of Magnesium With Cadmium Close to Mg_3Cd in Composition and Chemical Association (Issledovaniye splavov magniya s kadmiyem. Soobshcheniye 2. Istinnaya teployemkost' splavov magniya s kadmiyem, primykayushchikh po sostavu i khimicheskomu soyedineniyu Mg_3Cd)

PERIODICAL: Vestn. Mosk. un-ta. Ser. matem., mekhan., astron. fiz.,
khimii, 1957, Nr 1, pp 123-130

ABSTRACT: The true heat capacity c of Mg-Cd alloys with 61.8-79.7 atom-% Mg was determined at 45-210°C by the method of continuous adiabatic heating. In alloys close to Mg_3Cd in chemical association, the presence of two chemical transformations (70-81° and 145-159°) is noted, corresponding to the process of the disordering of the alloy. The integral heat of the transformations constitutes 0.33 and 0.35 cal/g-atom, respectively.

Card 1/2

SOV/137-58-9-19781

Investigation of Alloys of Magnesium With Cadmium. (cont.)

With an increase in the heating rate the temperature of the first transformation increases. The alloy containing 61.8 atom-% Mg has the most sharply defined maximum of C_p . For Communication Nr 1, see Vestn. Mosk. un-ta. Ser. matem., mekhan., astron., fiz., khimii, 1950, Nr 6, pp 43-54.

B.L.

1. Cadmium-magnesium alloys--Specific heat properties
2. Cadmium-magnesium alloys--Thermodynamic properties

Card 2/2

LEVITIN, I.Ya.

Analyzing the durability of forging rods. Kuz.-shtan.preisv. 5
no.7:18-21 J1 '63. (MIRA 16:9)

hammer

LEVITIN, I.Ya.

Analyzing the durability of forging hammer rods. Kur.-shtam.
proizv. 5 no. 7:18-21 J1 '63. (MIRA 36:9)

BEL'KIND, L.D.; KHORRING, G.M.; LEVITIN, I Ye.; MESHKOV, V.V.; RYABOV,
M.S.; SOKOLOV, M.V.; TIKHODNYEV, P.M.; SHAYKEVICH, A.S.

Aleksandr Anan'evich Trukhanov; on the occasion of the 60th
anniversary of his birth. Svetotekhnika 4 no. 7:28 J1 '58.
(MIRA 11:7)

(Trukhanov, Aleksandr Anan'evich, 1898-)

LEVITIN, K.; MELAMED, A.

Vermiculite, the miracle of Kovdor. Nauka i zhizn' 29
no.10:84-86 0 '62. (MIRA 15:12)

1. Spetsial'nyye korrespondenty zhurnala "Nauka i zhizn'".
(Vermiculite)

LEVITIN, K.; SEMENOV, A.; KRASNOVSKIY, A.A., red.

[Not light] Goriachii svet. Moskva, Znanie, 1965. 44 p.
(Novoe v zhizni, nauke, tekhnike. IV Seriya: Tekhnika;
no.20) (MIRA 18:10)

LEVITIN, Karl Yefimovich; MELAMED, Anatoliy Davidovich; CHECHNIKOVA,
V.K., red.

["NRV" patent; conversations with Azerbaijan scientists];
Patent NRV; besedy s azerbaidzhanskimi uchenymi. Moskva,
Izd-vo "Znanie," 1964. 48 p. (Novoe v zhizni, nauke, tekhniko. XI Seriya: Khimiya, no.5) (MIRA 17:7)

LEVITIN, KH. Z.

3545. LEVITIN, KH. Z. Dostisheniya Sadovodov Svedlovskoy Oblasti. M.
Goskul'tprosvet-12dat, 1954. 8s. 22sm. (Vsesoyuz. s.-kl. Bystavka).
15,000ekz. 10k.-Na obl. avt. Ne Ukazany-(54-57618) P 634.1/7st (47.811)

SO: Knizhnaya Letopis', Vol. 3, 1955

LEVITIN/, Kh. Z.

(Achievements of fruit growers in Sverdlovsk Province) Moskva, Gos. Izd-vo kul'turno-pro-svetitel'noi lit-ry, 1954. 7p. (Vsesoiuznaia sel'skokhoziai-stvennaia vystavka)

RABINOVICH, R.I. Prinimali uchastiye: ALEGLAN, L.K., kand. sel'khoz. nauk;
BARABANOVA, N.N.; BOSENKO, K.S.; VINNIK, V.V.; GRIGORCHUK, Ye.V.;
GUMEROV, A.Kh.; DOBROCHASOV, D.F.; ZAMURAYEV, I.V.; ZAYTSEVA, A.G.,
kand. sel'khoz. nauk; KOL'TSOV, N.A.; LEVITIN, Kh.Z., kand. biol.
nauk; LISITSKIY, B.Ya.; MATYASH, G.P.; MENTOV, A.V.; RABINOVICH, R.I.;
SAL'NIKOV, V.V.; SVETCHNIKOV, I.V.; SIMONOV, P.K.; SMIRNOV, V.V.;
SMIRNOV, L.P.; SMIRNOVA, V.I.; STEPANOVA, V.I.; TARASOV, A.A.; FILA-
TOVICH, V.V., kand. sel'khoz. nauk; FEDOROV, N.G., kand. tekhn. nauk;
TSAPLIN, M.F.; KHROMOV, L.V.; DAVYDOVA, I., red.; PAL'MINA, N., tekhn.
red.

[Sverdlovsk in Agricultural Exhibition of 1959] Sverdlovskaya sel'-
khoziaistvennaya vystavka. Sverdlovsk, Sverdlovskoe knizhnoe izd-vo,
1960. 131 p. (MIRA 14:10)

1. Sverdlovsk. Sverdlovskaya oblastnaya sel'skokhozyaystvennaya
vystavka, 1959.

(Sverdlovsk—Agricultural exhibitions)

POLYAKOV, V.G.; PEREVERZEV-ORLOV, V.S.; YAROSLAVSKIY, L.P.; LEVITIN, L.B.

Conference of young specialists of the Institute. Probl.
pered. inform. no.16:91-93 '64. (MIRA 17:12)

1. Institut problem peredachi informatsii AN SSSR.

LEVITIN, L.B.

Ideal physical channel for information transmission. Probl. pered. inform.
1 no.1:122-124 '65. (MIRA 18:7)

31506

S/020/60/134/002/003/0.5
B104/3201

26.233/

AUTHORS: Levitin, L. B. and Stanyukovich, K. P.

TITLE: Linear approximation of velocity in the problem of linear motion of a plasma of finite conductivity

PERIODICAL: Doklady Akademii nauk SSSR, v. 134, no. 2, 1960, 300-303

TEXT: For their study, the authors proceeded from the equations

$$\begin{aligned} \frac{\partial p}{\partial t} + \frac{\partial}{\partial x}(up) &= 0, \\ \frac{\partial u}{\partial t} + u \frac{\partial u}{\partial x} + \frac{1}{\rho} \frac{\partial p}{\partial x} + \frac{h}{\rho} \frac{\partial h}{\partial x} &= 0, \\ - \frac{\partial p}{\partial t} + u \frac{\partial p}{\partial x} + kp \frac{\partial u}{\partial x} &= (k-1) \kappa \left(\frac{\partial h}{\partial x} \right)^2, \\ \frac{\partial h}{\partial t} + \frac{\partial}{\partial x}(uh) &= \kappa \frac{\partial^2 h}{\partial x^2} \end{aligned} \quad (1)$$

of magnetogas dynamics. This system describes the plane, linear motion in the case of a finite, constant conductivity which is strong enough to permit

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displacement and convection currents to be neglected.

$\vec{v} = (u, 0, 0)$, $\vec{H} = (0, H, 0)$; $h = H/\sqrt{4\pi}$, $k = c_p/c_v$, $\kappa = c^2/4\pi\sigma$, the magnetic

viscosity. Owing to the great difficulties in finding exact solutions, much interest is attached to approximate solutions in which the plasma velocity $\vec{v}$ can be represented as a definite function. The authors briefly discuss results of M. A. Leontovich and S. M. Osovets (Atomnaya energiya, 2, 81 (1956)), K. P. Stanyukovich (Vvedniye v kosmicheskuyu gazodinamiku, M., 1958), and L. A. Artsimovich (Fizika plazmy i problema upravlyayemykh termoyadernykh reaktsiy, 2, M., 1958, page 87). As shown by experiments, an approximation of plasma velocity between the front of the shock wave and the magnetic piston is well possible by means of a linear function of x , the coefficients of which are time functions. The advantage of this approximation is that it is possible to obtain a sufficient number of arbitrary functions to satisfy the boundary conditions. Thus, velocity may be expressed by $u(x, t) = a(t)x + b(t)$ (2). With $h = \partial\varphi/\partial x$, the differential equation $\partial\varphi/\partial t + u\partial\varphi/\partial x = \kappa\partial^2\varphi/\partial x^2$ (3) describes the magnetic field. Proceeding from the boundary and initial conditions

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$$h(X_n(t), t) = \mu(t); \quad h(x, 0) = 0, \quad (7) \text{ and}$$

where

$$X_n(t) = \exp\left(\int_0^t a dt\right) \int_0^t b(t) \exp\left(-\int_0^t a dt\right) dt \quad (5)$$

for the magnetic field in the problem of the magnetic piston, and from conditions

$$\begin{aligned} \rho_1(u_1 - D) &= \rho_2(u_2 - D); \\ \rho_1(u_1 - D)^2 + \rho_1 + \frac{1}{2}h_1^2 &= \rho_2(u_2 - D)^2 + \rho_2 + \frac{1}{2}h_2^2; \quad (9)-(12) \\ \frac{k}{k-1} \frac{\rho_1}{\rho_1} + \frac{(u_1 - D)^2}{2} + \left[\frac{h_1}{\rho_1} - \frac{\kappa}{\rho_1(u_1 - D)} \left(\frac{\partial h}{\partial x} \right)_1 \right] h_1 &= \\ = \frac{k}{k-1} \frac{\rho_2}{\rho_2} + \frac{(u_2 - D)^2}{2} + \left[\frac{h_2}{\rho_2} - \frac{\kappa}{\rho_2(u_2 - D)} \left(\frac{\partial h}{\partial x} \right)_2 \right] h_2; \\ (u_1 - D) h_1 - \kappa \left(\frac{\partial h}{\partial x} \right)_1 &= (u_2 - D) h_2 - \kappa \left(\frac{\partial h}{\partial x} \right)_2. \end{aligned}$$

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holding in the front of the shock wave, the authors derive expression,

$$h(x_0, t) = \frac{x_0}{2\sqrt{\pi x} A} \int_0^t \frac{\mu(q)}{A(q) \left(\int_q^t A^{-2} dq \right)^{3/2}} \exp \left(- \frac{x_0^2}{4x \int_q^t A^{-2} dq} \right) dq. \quad (14)$$

for the magnetic field. Here $X_\Pi(t)$ is the Euler coordinate of the piston (plasma boundary), $D = D(t) = dX_\Pi(t)/dt$ is the velocity of the shock-wave front. Further, $A(t)$ and $X_\Pi(t)$ are taken as new approximating functions. Functions $a(t)$ and $b(t)$ are easily expressed by $a(t) = dA/dt$; $b(t) = Ad(X_\Pi/A)/dt$ (15). Expression

$$\rho_0 + \rho_0 \frac{[(1-A) X_\Pi' + A' X_\Pi]^2}{(1-A)^3} + \frac{\rho_0}{2} \frac{A'' X_\Pi^2}{(1-A)^3} + \rho_0 \frac{X_\Pi' X_\Pi}{1-A} = \frac{\mu^2(t)}{2}. \quad (20)$$

is derived from an examination of equation (10) for the momentum equilibrium in the front, and equation

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$$\frac{p_0}{A} + \frac{k-1}{2k} \frac{p_0}{A} \frac{(1+A)[(1-A)X_n' + A'X_n]^2}{(1-A)^3} + \frac{p_0}{2} \frac{A^2 X_n^2}{(1-A)^3} + \frac{p_0 X_n'' X_n}{1-A} = \quad (21)$$

$$= \frac{\mu^2(t)}{2} + \left\{ \left[Ah_3 - \frac{\kappa A_3}{X_n'} \left(\frac{\partial h}{\partial x} \right)_3 \right] (1-A) + \frac{(A^3+1)h_3}{2} \right\} \frac{h_3}{p_0}.$$

is found for the energy equilibrium. From (20) and (21) it is possible to determine $b(t)$ and $a(t)$ by the differential equations (15). Since the magnetic field behind the front influences the motion of the front only with very low t , expressions

$$X_\phi(t) = \frac{X_n}{1-A} = \sqrt{2c_0} \int_0^t \frac{dt}{\sqrt{A(k+1) - (k-1)}}. \quad (22)$$

are derived for the coordinates of the front, without considering the terms containing $h = H/\sqrt{4\pi}$. There are 6 references: 6 Soviet-bloc and 2 non-Soviet-bloc. ✓

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